

OBSERVATIONS OF A TWO-HEADED FLYTRAP

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In the summer of 2003 I observed that one of my *Dionaea muscipula* plants was producing a petiole with two traps. The plant was about five years old when it produced the anomaly, and I had never before seen it make such a leaf. Fifteen other petioles that the plant produced that year were normal. While this abnormality is occasionally reported in the literature and by hobbyists, it is a relatively rare event, so I took the opportunity to make some observations on the development and function of the traps.

I grew this plant in a circular terrarium approximately 44.5 cm (17.5 inches) in diameter, filled approximately 12 cm deep (5 inches) with live, long-fiber sphagnum moss. The plant was watered with both purified water (tissue cell culture-grade, 18.0 megohm/cm) and rain water. The pH of the compost was regularly tested with a laboratory grade pH meter and varied from 4.5-6.0. The plant was never fertilized, but it was hand fed insects (but not excessively) and also caught an occasional fly. The plant produces traps that are green with only a slight blush of pink color, even in strong sunlight. The temperature rarely exceeds 38°C (100°F) in the summer. Nighttime winter temperatures may drop to -10°C (14°F) but rarely lower. The compost does freeze solid during the winter. Humidity remains above 80% during summer months.

In June I first noticed that one of the immature petioles contained dual traps. The traps developed at about the same rate as other traps on this plant and on adjacent plants of similar age. When the traps reached maturity they opened exhibiting two nearly separate traps. Figures

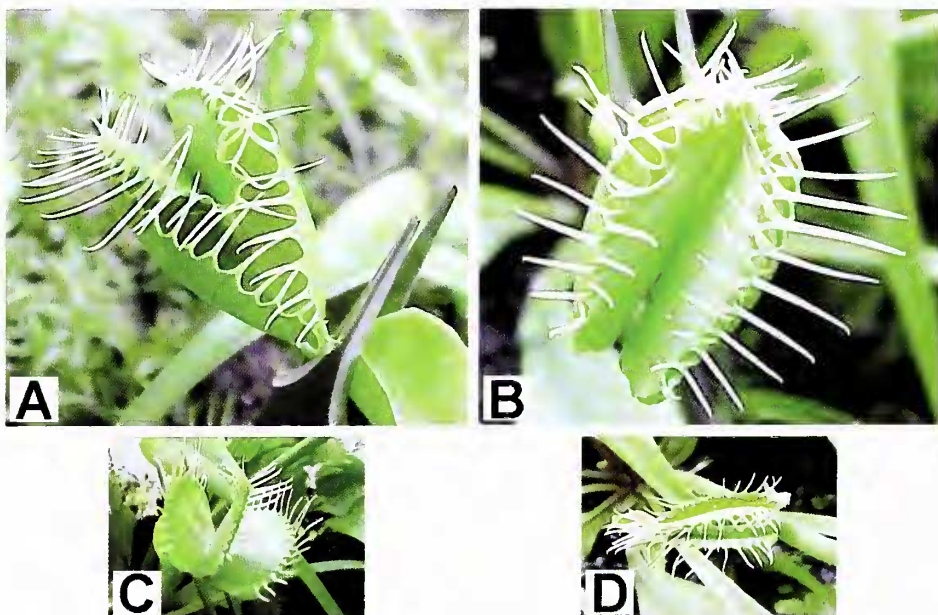


Figure 1: (A) Closed trap after artificial stimulation of trigger hairs on outer half of left trap, viewed from petiole. (B) Closed traps after artificial stimulation of trigger hairs on outer half of left trap. This view shows the fused trap base at the top of the picture. (C) Dual open traps viewed from the distal end of the traps. (D) Closed traps three days after a live fly was introduced into the left trap. The traps have developed the characteristic narrowing of closed appended surfaces.

1A-C show how the two outermost halves to the traps were normally formed. The two innermost halves were separated at the distal end (trap apex), but fused at the proximal end (trap base). All four trap faces appeared to have trigger-hairs, although I was unable to determine how many.

Exciting trigger hairs on any of the four trap faces caused closure of both traps simultaneously (Figures 1A-B). When no prey was present both traps opened within 36 hours of closure (Figure 1C). A living fly was introduced into one trap, which resulted in closure of both traps. Within 36 hours both traps showed the narrowing phase (Figure 1D) described by Darwin (1875). In the distal portion, the trap surfaces closed as if they were two distinct traps. However, in the proximal portion, the outermost trap surfaces functioned as if there was only a single trap. Both traps remained closed until digestion had occurred and then both traps reopened. There was no evidence of self-digestion (i.e. blackening of the trap faces) or seepage of fluid from the empty trap, but the trap with prey did show some self-digestion. This was surprising in that the introduced prey was not particularly large and the trap sealed completely around it.

I will observe the plant for the occurrence of similar unusual traps, but I believe that this was a one time phenomenon and unlikely to be repeated.

References:

Darwin, C. 1875. *Insectivorous Plants*. John Murray Publishers, London.



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LOOKING BACK: CPN 25 YEARS AGO

Bill Barnett wrote about an experience he had at a nursery in San Francisco where he worked: "One day I was stunned when I arrived at work to find a vase of cut *Sarracenia leucophylla* pitchers among the carnations and gladioli. The wholesaler received the pitchers from South Carolina. The pitchers drew quite a lot of attention from the public but were not big sellers.... I mean how many people would have the nerve to present a bouquet[sic] of carnivorous plants to their sweethearts?" This is the earliest reference that I (BR) have found of *Sarracenia* being offered to the public as cut leaves. Can you find anything earlier?